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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/528,181

10/30/2006

Christian Krummel

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EXAMINER

TANINGCO, MARCUS H

ART UNIT

PAPER NUMBER

2884

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/528,181	Applicant(s) KRUMMEL ET AL.	
	Examiner MARCUS H. TANINGCO	Art Unit 2884	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-14 and 16-23 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16, 17, 19-21 and 23 is/are allowed.
- 6) ☒ Claim(s) 10-14, 18 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/04/10</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claim 18 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 10, 11, 13, 14, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong (US 5,721,430) in view of Kurle et al. (*Kurle*, US 6,106,735).

With regards to claim 18, Wong discloses an IR detector for measuring of a substance in a beam path of a radiation source (Fig. 4) comprising: a first and second detector (4, 5) arranged

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on a first chip (30); a first and a second filter (F1, F2) arranged on a second chip, wherein the first chip and the second chip are connected to one another in a hermetically sealed fashion (column 17, lines 32-35) (*wherein the hermetically sealed fashion is the environment in which said first and second chips are connected*). Wong fails to teach a hermetic seal between the first and second chips includes a bonding web connecting the first and second chips. Wong does, however, teach that said first and second chips are connected via bonding regions (88) (Fig. 18). Note that it would have been obvious to use a bonding web in the bonding regions taught by Wong since bonding web is a known adhesive and because the substitution of the bonding material taught by Wong with the bonding web would have yielded predictable results to one of ordinary skill in the art at the time of the invention. With regards to connecting the first and second chips, Kurle teaches a wafer stack and method of producing sensors wherein bonding web is used to bond a first and second chip (see description of Figs. 1A-1E). As such, it would have been obvious to bond the first and second chips because a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art as illustrated by Kurle.

With regards to claim 10, Wong discloses said first and second detectors comprise a thermopile element (column, 9, lines 9-10).

With regards to claim 11, Wong discloses an absorber layer provided on said detectors (column 18, lines 4-7).

With regards to claim 13, Wong discloses a narrow bandpass filter but fails to teach a Fabry-Perot filter, although such filters were known. Those skilled in the art appreciate that a Fabry-Perot filter is a type of narrow bandpass filter. Substituting the narrow bandpass filter taught by Wong with a Fabry-Perot filter would have been obvious since the substitution of one

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known element for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

With regards to claim 14, Wong discloses a third detector and a third filter (Fig. 4).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wong in view of Kurle and Tomonari et al. (*Tomonari*, US 5,426,412).

With regards to claim 12, Wong teaches most aspects of the claimed invention except for said first and said second detectors are thermally decoupled from the first substrate. Tomonari teaches an infrared detecting device comprising an infrared detector (14) and a substrate (12) wherein a cavity is formed in the substrate beneath the detector (Fig. 8), thus providing a thermal decoupling between said detector and said substrate. It would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Wong with Tomonari in order to provide thermal isolation to said detectors.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wong in view of Kurle and Charlier et al. (*Charlier*, US 6,369,386).

With regards to claim 22, Wong fails to teach the specific requirements of the recited self-test mechanism. Charlier, however, teaches a self calibrating IR sensing device comprising a conductive heating element (column 4, lines 44-49). It would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Wong with Charlier in order to calibrate said detectors.

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Allowable Subject Matter

Claims 16, 17, 19-21, and 23 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

With regards to claim 16, prior art fails to teach the device configured according to claim 16 and further comprising at least one hermetically sealed region being vertically interposed between the first chip and the second chip.

With regards to claims 17 and 19, the reasons for allowance have been set forth in the Office Action mailed on 6/18/2008.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARCUS H. TANINGCO whose telephone number is (571)272-1848. The examiner can normally be reached on M - F 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David P. Porta/
Supervisory Patent Examiner, Art Unit
2884

***/Marcus H Taningco/
Examiner, Art Unit 2884***